

#innovacion
#financiacion
#asesoramiento
#internacionalizacion

Herramientas Europeas de Financiación de la I+D+i en Economía Circular
Bilbao, 24 mayo 2019

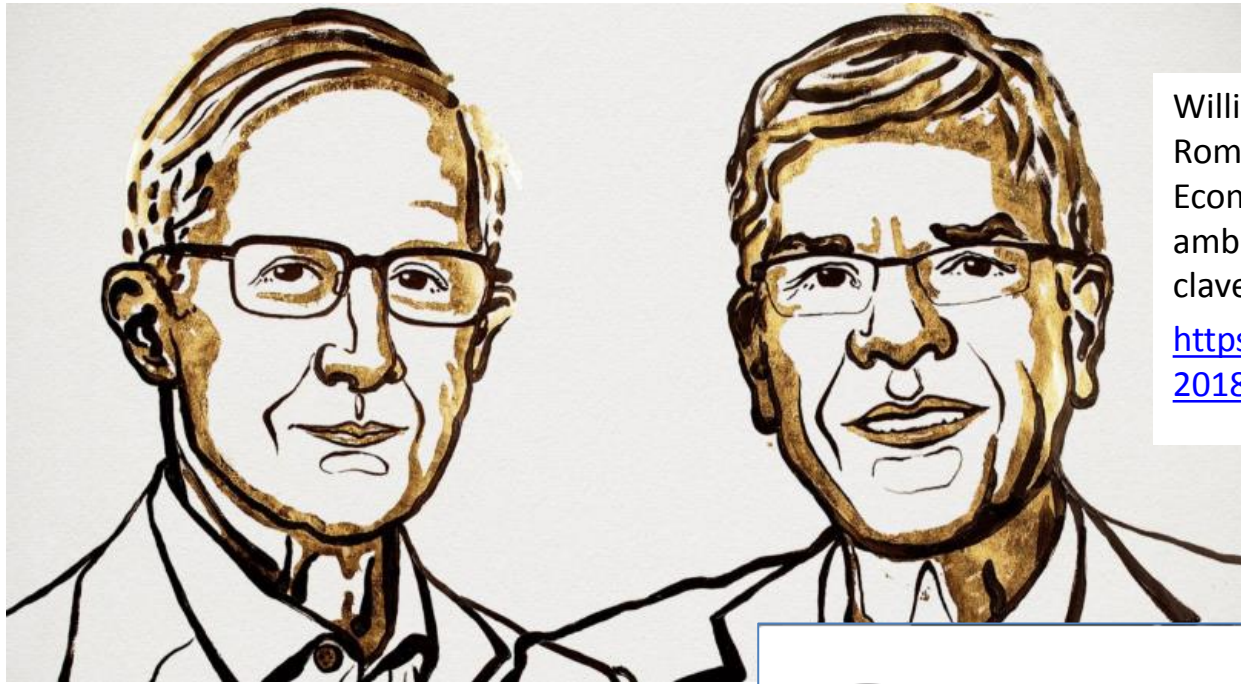
I+D+I, Inversión y Oportunidad Economía Circular – H2020

ESHORIZONTE2020
Portal español del Programa Marco de Investigación e Innovación de la Unión Europea
[@EsHorizonte2020](https://twitter.com/EsHorizonte2020)

Lydia González
CDTI

Índice

- Contexto
- Horizonte 2020
- FP9 – Horizonte Europa
- Conclusiones



William Dawbney Nordhaus y Paul Michael Romer, ganadores del premio Nobel de Economía de 2018, incluyen el medio ambiente y la innovación tecnológica como claves macroeconómicas.

<https://ethic.es/2018/10/nobel-economia-2018-cambio-climatico/>



Los Imperdibles

@ImperdibleCotec

Follow

Entrevista a @cristinagallach, alta comisionada para la @Agenda2030Esp del Gobierno: los #17ODS deben impulsarse con "las gafas de la innovación".

Translate Tweet



La **Agenda 2030 de Objetivos de Desarrollo Sostenible (ODS) de Naciones Unidas** es "el gran marco ético" para los desafíos que afronta la tecnología, según la alta comisionada para la Agenda 2030 del Gobierno, Cristina Gallach.

1:00 AM - 30 Apr 2019

CDTI Centro para

@EsHorizonte2020

Residuos electrónicos España es el quinto país de la Unión Europea que más basura electrónica genera

- España produjo 930.000 toneladas de residuos electrónicos en 2016, según un informe
- Los datos apuntan a que se recogieron alrededor del 21% de los aparatos

03.03.2019 | actualización 13:39 horas Por PILAR BAYÓN



MEDIO AMBIENTE

Cerco al tráfico internacional de residuos plásticos que contaminan los océanos

Casi 200 países acuerdan la primera regulación para la exportación de este tipo de basuras. España es el noveno país del mundo que más desechos envía fuera de sus fronteras



EL PAIS, 20/05/2019



Compramos un 60% más de ropa que en el año 2000,
pero nos dura la mitad de tiempo.

ADOLFODOMINGUEZ

Cada español consume, de media, 34 prendas al año.
Y tira entre 12 y 14 kilos de ropa.

PIENSA. LUEGO COMPRA.



es

COLECCION "EL ESTADO DEL PLANETA"

Las cifras del desperdicio de comida

Un 20% de la carne de vaca, un 35% del pescado y un 45% de las frutas que producimos al año se pierden. Un gráfico del quinto libro de la colección 'El estado del planeta' dedicado a la nutrición



EL PAIS

19 MAY 2018 - 01:47 CEST

Desarrollo Tecnológico Industrial | E.P.E.

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Políticas, Estrategias, Iniciativas.....

Global

UE



SUSTAINABLE DEVELOPMENT GOALS



España



@EsHorizonte

.....y otras



“As Europeans, we want to leave a healthier planet behind for those that follow. We obviously cannot turn a blind eye to the climate challenge; we must look to the future.”

Jean-Claude Juncker, State of Union address
September 2018



Living well, within
the limits of our planet

*Proposal for a general Union
Environment Action Programme*

**Planet <-> Economy
Environment <-> Growth**



Jyrki Katainen @jyrkikatainen · 20h

To accelerate the transition to a [#CircularEconomy](#), it is essential to invest in [#innovation](#). The Commission has stepped up efforts in totalling more than €10 billion in public funding to this end over the 2016-20 period.

1 5 7



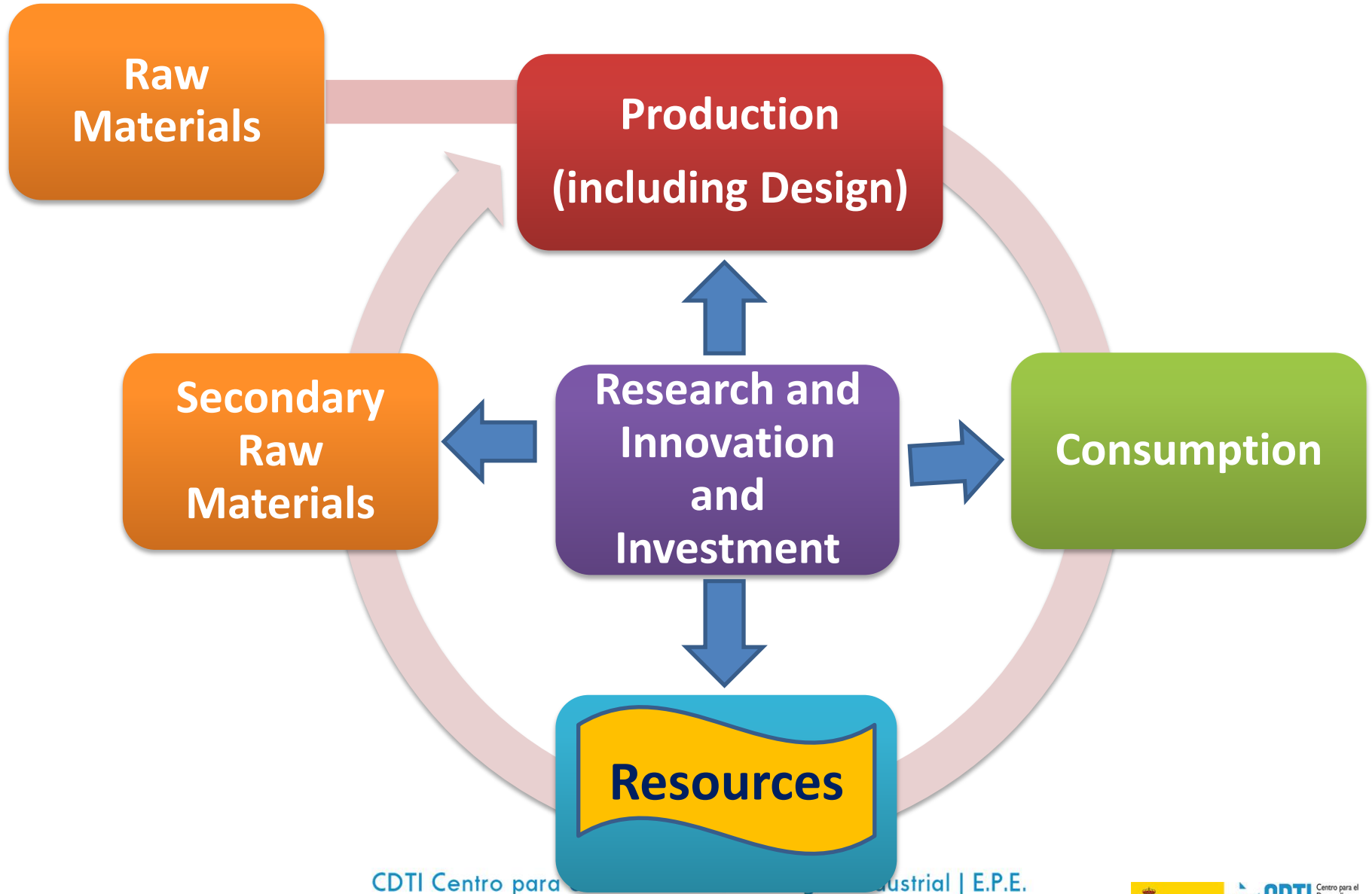
Jyrki Katainen @jyrkikatainen · 20h

On top of that, to stimulate further investments, the [#CircularEconomy](#) Finance Support Platform has produced recommendations to improve the bankability of CE projects, coordinate funding activities and share good practices. Just check them out! [europa.eu/rapid/press-re...](#)

1 2 3

CDT

UE – Economía Circular



CDTI Centro para el Desarrollo Tecnológico Industrial | E.P.E.



| <u>An EU action plan for the Circular Economy</u> | | Timetable |
|--|---|------------------|
| Production | Ecodesign Directive and Action Plan - support to SMEs.... | 2016 - 2018 |
| Consumption | Ecodesign – Ecolabel – Planned Obsolescence - Unfair Commercial Practices-..... | 2016 - 2018 |
| Waste management | Legislative proposal - Waste Shipment regulation - Initiative on waste to energy - | 2015 onwards |
| Market for secondary raw materials | Quality standards – Proposal for a revised fertilisers regulation - Proposed legislationrequirements for reused water for irrigation and groundwater recharge | 2016 onwards |
| Sectorial Actions | Plastics – Food waste – Critical Raw Materials – Construction and Demolition – Biomass and biobased materials | 2016 onwards |
| Innovation and Investments | H2020 – EFSI – RIS3 - EIB | 2015 onwards |
| Monitoring | Development of a monitoring framework for the circular economy | 2017 |

Dónde estamos en 2019?

"Circular Economy Package" Implementation



Jyrki Katainen ✓
@jyrkikatainen

Follow

Three years after adoption, the [#CircularEconomy](#) Action Plan can be considered fully completed. Its 54 actions have now been delivered or are being implemented. Europe's potential for sustainable growth is huge! Read more from our press release: europa.eu/rapid/press-re...

4:07 AM - 4 Mar 2019

[Closing the loop: Commission delivers on Circular Economy Action Plan](#)

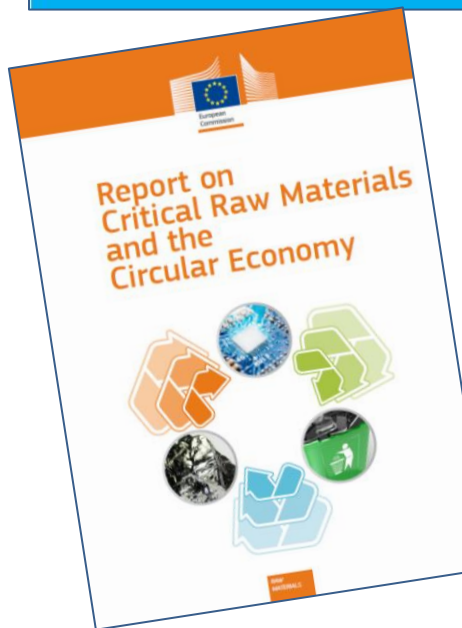
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Economía Circular: Implementación

In 2019, Circular Economy Action Plan is fully completed



- Horizon 2020.-**
- **Dedicated call : "Industry 2020 in the circular economy"**, (€650 million in 2016 -2017)
 - Focus Area **"Connecting economic and environmental gains – the Circular Economy"**, (€940 million calls in 2018-2019-2020)



.....and others

UE: Estrategia de Plásticos - Economía Circular



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¿Qué es Horizonte 2020?

**Presupuesto
75.028 M€**

**Foco en los
Retos Sociales**

**“Topics” definidos
 (“top-down”)***

**Diferentes tipos de
proyectos (RIAs,
IAs, CSAs, PCPs,....)**

HORIZONTE 2020

Programa Marco de

Investigación e Innovación de la UE
(2014-2020)

**Financiación para todo tipo
de entidades (OPIs, Univs.,
Empresas, Admin....)**

**Cooperación
Internacional**

**Proyectos en
Colaboración***

Europa 2020

CDTI Centro para el

| E.P.E.

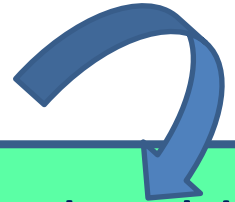


H2020 Presupuesto

| HORIZONTE 2020 | | 75.028 |
|--|--|---------------|
| I. Prioridad «Ciencia excelente» | | 24.282 |
| 1. El Consejo Europeo de Investigación (CEI) | | 13.145 |
| 2. Las Tecnologías Futuras y Emergentes (FET) | | 2.585 |
| 3. Las acciones Marie Skłodowska-Curie | | 6.162 |
| 4. Las infraestructuras de investigación | | 2.390 |
| II. Prioridad «Liderazgo industrial» | | 16.561 |
| 1. Liderazgo en tecnologías industriales y de capacitación: | | 13.035 |
| 1.1. Tecnologías de la información y la comunicación (TIC) | | 7.468 |
| 1.2. Nanotecnologías, 1.3. Materiales avanzados y 1.5. Fabricación y transformación avanzadas | | 3.741 |
| 1.4. Biotecnología | | 501 |
| 1.6. Espacio | | 1.403 |
| 2. Acceso a la financiación de riesgo | | 2.842 |
| 3. Innovación en las PYME | | 639 |
| III. Prioridad «Retos de la sociedad» | | 28.630 |
| 1. Salud, cambio demográfico y bienestar | | 7.257 |
| 2. Seguridad alimentaria, agricultura y silvicultura sostenibles, investigación marina, marítima y de aguas interiores y Bioeconomía | | 3.708 |
| 3. Energía segura, limpia y eficiente | | 5.688 |
| 4. Transporte inteligente, ecológico e integrado | | 6.149 |
| 5. Acción por el clima, medio ambiente, eficiencia de los recursos y materias primas | | 2.956 |
| 6. Europa en un mundo cambiante – Sociedades inclusivas, innovadoras y reflexivas | | 1.258 |
| 7. Sociedades seguras – Proteger la libertad y la seguridad de Europa y de sus ciudadanos | | 1.613 |
| IV. Difundir la excelencia y ampliar la participación | | 871 |
| V. Ciencia con y para la sociedad | | 445 |
| VI. Acciones directas no nucleares del Centro Común de Investigación (JRC) | | 1.856 |
| VII. Instituto Europeo de Innovación y Tecnología (EIT) | | 2.383 |

H2020 – «Cross-cutting issues»

- ❑ International Cooperation
- ❑ Social and Economic Science and Humanities
- ❑ Climate Change and Sustainable Development



- At least, **60% of overall Horizon 2020 budget** should be related to **sustainable development**
- **35% to climate-related expenditure**

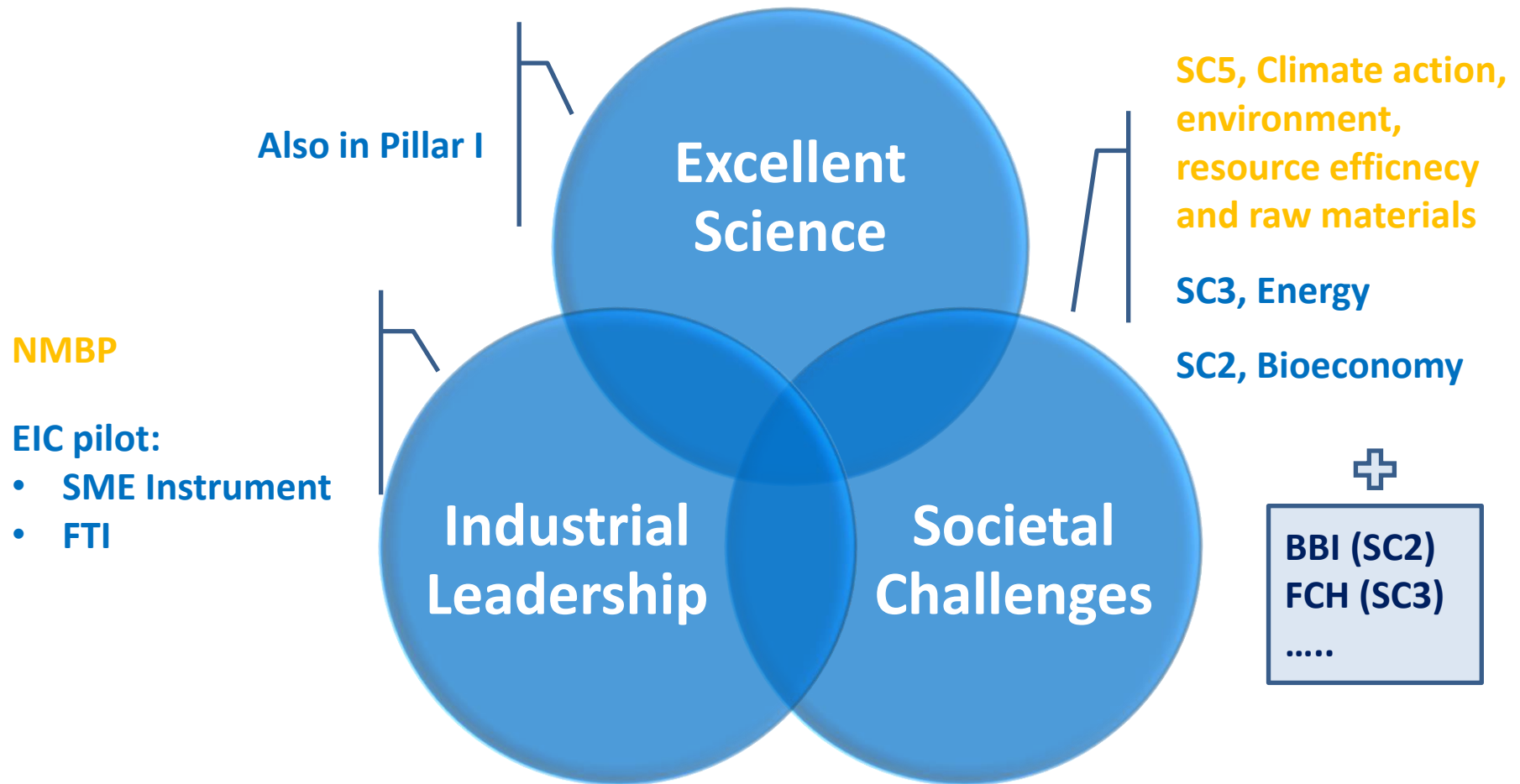
and of the Innovation Union

- ❑ Responsible Research and Innovation including **GENDER**
- ❑ **SME involvement** in research and innovation and the



20% Industrial Leadership and Societal Challenges budget should go to **SMEs** (including the SME instrument).

Economía Circular en H2020



2014-2015.- SC5 - Call Waste + NMBP - Call SPIRE

2016-2017.- SC5 + NMBP - Call Industry 2020 in the Circular Economy

2018-2020.- Focus Area “Connecting economic and environmental gains – the Circular Economy (CE)”



Research & Innovation Projects relevant to
the Circular Economy Strategy
CALLS 2016 - 2018

HORIZON 2020

Directorate General for Research and Innovation
Directorate 1 – Climate action and resource efficiency
Unit 1.2 – Eco-Innovation
Contact: Andrea Gonzalez Gomez
Patricio Hernandez



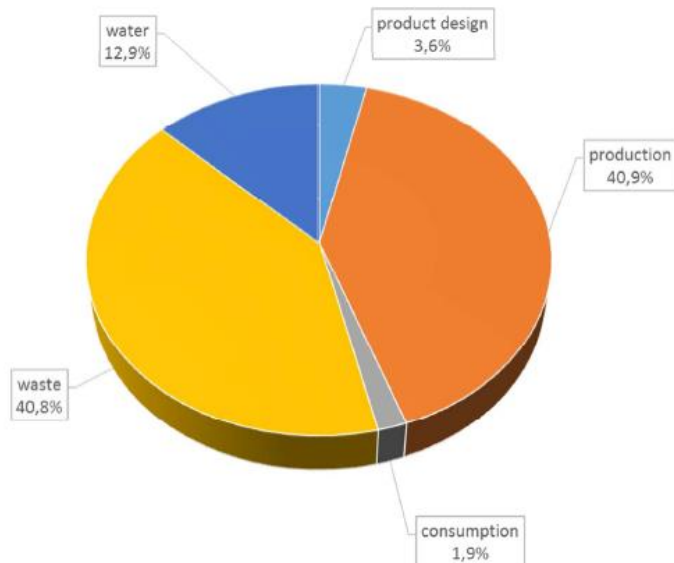
Date: 11/02/2019

Economía Circular en H2020

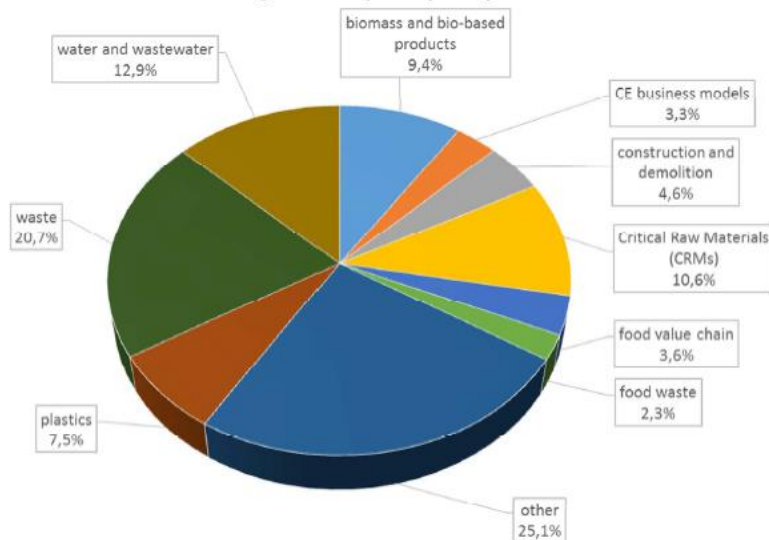
| WP year | Projects (*) | EU grant (EUR) | Project Costs (EUR) |
|--------------------|--------------|----------------------|----------------------|
| 2016 | 78 | 366.408.104 | 423.599.362 |
| 2017 | 78 | 399.423.792 | 475.238.173 |
| 2018 | 101 | 471.391.049 | 551.451.978 |
| Grand Total | 257 | 1.237.222.945 | 1.450.289.513 |

(*) In addition the Joint Undertakings Bio-Based Industries (BBI), Clean Sky (CS2) and Fuel Cells and Hydrogen (FCH), which also receive funding from Horizon 2020, are supporting with EUR 218 million some 40 relevant projects to the Circular Economy Strategy, as resulted from the calls launched in 2016, 2017 and 2018.

EU grant share per CE stage



EU grant share per CE priority



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H2020 – Programa de Trabajo 2014 -2015

Contribuciones a la Economía Circular:



SC5 - Call Waste: A Resource to Recycle, Reuse and Recover Raw Materials

Budget.- €131million



NMBP - Call for SPIRE – Sustainable Process

Budget.- €135million

Economía Circular - Qué se ha financiado

2014 -2015 → SC5 - Call Waste: A Resource to Recycle, Reuse and Recover Raw Materials

Budget.- €131million

- **WASTE-1-2014:** Moving towards a circular economy through industrial symbiosis
- **WASTE-2-2014:** A systems approach for the reduction, recycling and reuse of food waste
- **WASTE-3-2014:** Recycling of raw materials from products and buildings
- **WASTE-4-2014/2015:** Towards near-zero waste at European and global level
- **WASTE-5-2014:** Preparing and promoting innovation procurement for resource efficiency
- **WASTE-6-2015:** Promoting eco-innovative waste management and prevention as part of sustainable urban development
- **WASTE-7-2015:** Ensuring sustainable use of agricultural waste, co-products and by-products

Economía Circular - Qué se ha financiado

2014 -2015 → NMBP - Call for SPIRE – Sustainable Process

Budget.- €135million

SPIRE 1 – 2014: Integrated Process Control

SPIRE 2 – 2014: Adaptable industrial processes allowing the use of renewables as flexible feedstock for chemical and energy applications

SPIRE 3 – 2014: Improved downstream processing of mixtures in process industries

SPIRE 4 – 2014: Methodologies, tools and indicators for cross-sectorial sustainability assessment of energy and resource efficient solutions in the process industry

SPIRE 5 – 2015: New adaptable catalytic reactor methodologies for Process Intensification

SPIRE 6 – 2015: Energy and resource management systems for improved efficiency in the process industries

SPIRE 7 – 2015: Recovery technologies for metals and other minerals

SPIRE 8 – 2015: Solids handling for intensified process technology

H2020 – Programa de Trabajo 2016-2017

CROSS-CUTTING ACTIVITIES (FOCUS AREAS)

**Call - Industry 2020 in
the Circular Economy**
Budget.- €679 million

**Call - Smart and
Sustainable Cities**

**Call - Internet of
Things**

- Pilots
- Factories of the Future (FOF)
- Sustainable Process Industries (SPIRE)
- Circular Economy

NMP

SC5

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Economía Circular - Qué se ha financiado

2016-2017 → Cross Cutting Call NMBP - SC5: Industry 2020 in the Circular Economy

Budget.- €679 million

NMBP: Pilots + FoF + SPIRE (all the “topics” in these calls)

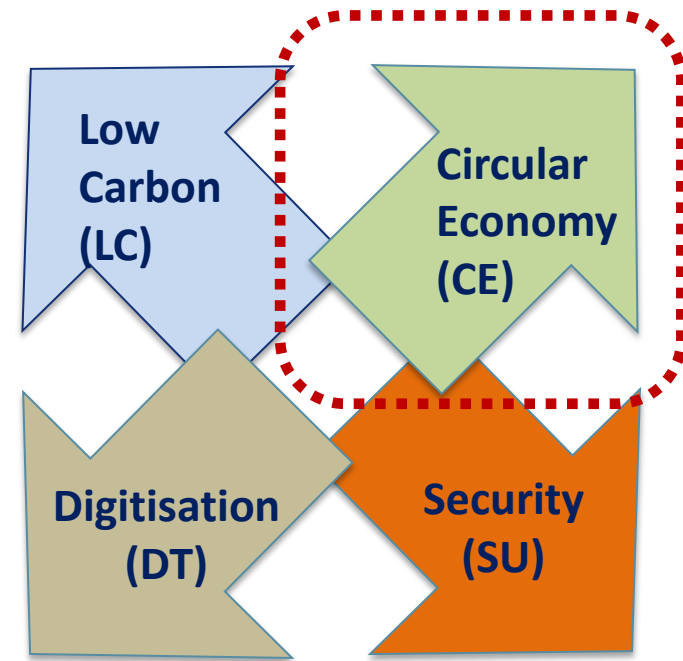
SC5: CIRCULAR ECONOMY

- **CIRC-01-2016-2017:** Systemic, eco-innovative approaches for the circular economy: large-scale demonstration projects
- **CIRC-02-2016-2017:** Water in the context of the circular economy
- **CIRC-03-2016:** Smart Specialisation for systemic eco-innovation/circular economy
- **CIRC-04-2016:** New models and economic incentives for circular economy business
- **CIRC-05-2016:** Unlocking the potential of urban organic waste

H2020 – Programa de Trabajo 2018-2020

Focus Areas*

- aligned to **political priorities**
- expected to have **exceptional impact**
- implemented through **“virtual” calls** cutting across the programme (description in 'General Introduction', common call identifier of contributing calls and topics)



€ 7 billion for 4 mutually reinforcing focus areas

*http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-intro_en.pdf

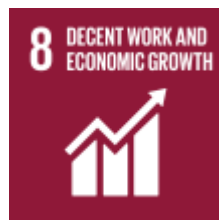
H2020 – Programa de Trabajo 2018-2020

Focus Area:

Connecting economic and environmental gains – the Circular Economy (CE)

Covers the main actions in Work Programme 2018-2020 which will directly **support the Circular Economy policy**:

- Integrating **production, consumption, waste management and raw materials**
- Ensure that **growth no longer requires increasing consumption** of resources, energy, water and primary raw materials
- **Minimise waste**, including from plastics
- **Enhance industrial competitiveness**



→ Total indicative budget (2018-2020) € 940 million

H2020 – Programa de Trabajo 2018-2020

Focus Area:

Connecting economic and environmental gains – the Circular Economy (CE)

Areas/calls/topics:

- **LEIT-NMBP:** certain topics under calls 'Industrial Sustainability', (notably 'Sustainable Process Industry (SPIRE)' and 'Catalysing the Circular Economy') and in **Industrial Biotechnology** → **€370 million**
- **SC2:** certain topics in calls 'Sustainable Food Security', 'Rural Renaissance' and 'Blue Growth' → **€253 million**
- **SC3:** topic 'Conversion of captured CO2' → **€12 million**
- **SC5:** topics with CE identifier in call 'Greening the economy in line with the SDGs', (Circular Economy and Raw materials) → **€306 million**

→ **Total indicative budget (2018-2020) € 940 million**

H2020 – Programa de Trabajo 2018-2020



Funding & tender opportunities
Single Electronic Data Interchange Area (SEDIA)

English EN

Register Login

select programme

clear filter

SEARCH FUNDING & TENDERS HOW TO PARTICIPATE PROJECTS & RESULTS WORK AS AN EXPERT SUPPORT

Horizon 2020 Framework Programme (H2020)



There will be issues with accessing and uploading of documents in the Grants and Audits Management and in the Participant Register Services on Tuesday, 21.05.2019, between 19:00 and 23:59 CET. The Legal Entity, Bank Account, Contracts and Payments functionalities in the Experts Area of the F&T Portal will be unavailable on Tuesday, 21.05.2019, between 19:00 and 23:59 CET.



Horizon 2020 is the EU funding programme for research and innovation

Horizon 2020 programme is running from 2014 to 2020 with a €80 billion budget. It provides research and innovation funding for multi-national collaboration projects as well as for individual researchers and supports SMEs with a special funding instrument.

For more information on Horizon 2020, please see the H2020 web site.

- Find calls for proposals
- Projects & Results
- SME Participations
- Financial Capacity Assessment

ALL the topics (CE)
contributing to this Focus Area

Find calls for proposals in Horizon 2020

Search calls for proposals by keywords, programme parts,...

Filter by programme part:

- Excellent Science
- Industrial Leadership
- Societal Challenges
- Spreading excellence and widening participation
- Science with and for Society
- The European Institute of Innovation and Technology (EIT)
- Euratom Research and Training Programme

Filter by focus area:

- Building a low-carbon, climate resilient future
- Connecting economic and environmental gains – the Circular Economy
- Digitising and transforming European industry and services
- Boosting the effectiveness of the Security Union

- Open to the World

Reto Social 2 – Programa de Trabajo 2018-2020

CE-SFS-24-2019: Innovative and citizen-driven food system approaches in cities

CE-SFS-25-2018: Integrated system innovation in valorising urban biowaste

CE-BG-06-2019: Sustainable solutions for bio-based plastics on land and sea

CE-RUR-08-2018-2019: Closing nutrient cycles

CE-RUR-10-2019: Circular bio-based business models for rural communities

.....and some others (all the topics with CE)

NMBP – Programa de Trabajo 2018-2020

CE-BIOTEC-04-2018: New biotechnologies for environmental remediation (RIA)

CE-BIOTEC-05-2019: Microorganism communities for plastics bio-degradation (RIA)

3.1. SUSTAINABLE PROCESS INDUSTRY (SPIRE)

CE-SPIRE-02-2018: Processing of material feedstock using non-conventional energy sources (IA)

CE-SPIRE-03-2018: Energy and resource flexibility in highly energy intensive industries (IA 50%)

CE-SPIRE-04-2019: Efficient integrated downstream processes (IA)

CE-SPIRE-05-2019: Adaptation to variable feedstock through retrofitting (IA 50%)

3.2. CATALYSING THE CIRCULAR ECONOMY

CE-NMBP-24-2018: Catalytic transformation of hydrocarbons (RIA)

CE-NMBP-25-2019: Photocatalytic synthesis (RIA)

CE-NMBP-26-2018: Smart plastic materials with intrinsic recycling properties by design (RIA)

.....and some others (all the topics with CE)

[NMBP Work Programme 2018-2020](#)

Reto Social 5 – Programa de Trabajo 2018-2020



OBJETIVO se mantiene:

- moving to a **greener, more resource efficient and climate-resilient economy and society** in sync with the natural environment.
- demonstrating a **strong commitment** to supporting the **UN's SDGs** and the **targets of the COP21 Paris Agreement**.

Call-Building a low-carbon, climate resilient future:
climate action in support of PA

Call-Greening the economy in line with the
Sustainable Development Goals (SDGs)

Total indicative budget (2018-2020) € 1,100million

Reto Social 5 – Programa de Trabajo 2018-2020

Call-Building a low-carbon, climate resilient future: climate action in support of Paris Agreement

- Decarbonization
- Climate adaptation, impacts and services
- Inter-relation between climate change, biodiversity and ecosystem services
- The Cryosphere
- Knowledge gaps

LC

Call-Greening the economy in line with the Sustainable Development Goals (SDGs)

- Connecting economic and environmental gains – the circular economy
- Raw materials
- Water for our environment, economy and society
- Innovating cities for sustainability and resilience
- Earth observation
- Nature-based solutions, disaster risk reduction and natural capital accounting
- Heritage alive

CE

Call-Greening the economy in line with the Sustainable Development Goals (SDGs)

CONNECTING ECONOMIC AND ENVIRONMENTAL GAINS – THE CIRCULAR ECONOMY

- **Circular economy solutions** should combine a **strong environmental rationale** with a **convincing business logic**
- **Aims** of this part:
 - substantially **improve the efficiency of resource use**,
 - **minimise the production of waste** and **increase the use** of resources originating from **secondary sources** – while avoiding adverse health effects
 - **reduce pollution and greenhouse gas emissions**
 - elucidate the **role of design in product durability**,
 - enhance the capacity of **cities** to embrace **circular economy** approaches
 - support the **transition to systemic, integrated solutions closing the cycles** of resource use in the **water sector**
 - Implement **SDGs**, in particular:

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Reto Social 5 – Programa de Trabajo 2018-2020

CONNECTING ECONOMIC AND ENVIRONMENTAL GAINS – THE CIRCULAR ECONOMY



CE-SC5-01-2018: Methods to remove hazardous substances and contaminants from secondary raw materials

CE-SC5-02-2018: Independent testing programme on premature obsolescence

CE-SC5-03-2018 : Demonstrating systemic urban development for circular and regenerative cities

CE-SC5-04-2019 : Building a water-smart economy and society.-

a) Symbiosis between industry and water utilities

b) Large scale applications with multiple water users at various relevant scales

CE-SC5-05-2018: Coordinated approaches to funding and promotion of research and innovation for circular economy

Call-Greening the economy in line with the Sustainable Development Goals (SDGs)

RAW MATERIALS

- Main aim of this part will be on achieving the **objectives** and meeting the **targets** of the **EIP on Raw Materials**.
- Also responds to **Circular Economy Action Plan**
- Type of actions:
 - **Pilot actions** demonstrating sustainable production of primary and secondary raw materials → higher TRLs
 - **Breakthrough research concepts**, as the basis of tomorrow's innovations → lower TRLs
 - Actions to **build the EU knowledge base** of primary and secondary raw materials **for solid decision making**
- Implement **SDGs**, in particular:

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Reto Social 5 – Programa de Trabajo 2018-2020



RAW MATERIALS

CE-SC5-06-2018: New technologies for the enhanced recovery of by-products

CE-SC5-07-2018-2019-2020: Raw materials innovation for the circular economy: sustainable processing, reuse, recycling and recovery schemes.-

- a) Sustainable processing and refining of primary and/or secondary raw materials
- b) Recycling of raw materials from end-of-life products
- c) Recycling of raw materials from buildings
- d) Advanced sorting systems for high-performance recycling of complex end-of-life products

CE-SC5-08-2018-2019: Raw materials policy support actions for circular economy.-

- a) Voluntary scheme for certification of treatment facilities for key types of wastes (2018)
- b) Resource efficiency in wood processing, recovery and recycling (2018)
- c) Responsible sourcing of raw materials in global value chains (2019)

Instrumento PyME y FTI

Oportunidades adicionales en....

- SME Instrument
- Fast Track to Innovation



EIC pilot*

* http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-eic_en.pdf

Cómo nos está yendo....

P.e. Reto Social 5 → Calls WASTE y CIRC (2014-2018)

- **Propuestas presentadas:**

- ES participa en el **69,3%** de las propuestas presentadas en estas convocatorias, (TOTAL = 277).

- **Actividades financiadas:**

- **Entidades españolas** en **45** de las 58 actividades financiadas (**77,6%**)
- **16** de las actividades financiadas (**27,6%**) **coordinadas por ES**
- **Subvención** recibida **69,6M€ (18,2% UE)**
- **ES** propuestas aprobadas/presentadas **23,4,1%** (20,9% total)*
- Posición: **España**, Alemania, Italia, Bélgica, Países Bajos...
- Destaca la participación de **empresas (43,5%)** y **centros tecnológicos (24,2%)**.

* Influencia de los "topics in 2-stages".

Algunos ejemplos.....



Y también:

<https://www.spire2030.eu/projects/our-spire-projects>

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H2020 – Programa de Trabajo 2020

- **Not approved**/published **yet** (June/2019)
- A good number of **topics on Circular Economy** (including **Plastics**)
- Focus Area, “Connecting economic and environmental gains – the Circular Economy”(CE) → **NMBP, SC2, SC3, SC5 ...and also SC1**

H2020: Don't miss these last opportunities !!!!!

H2020 - Programa de Trabajo 2020.-

Posibles “topics” de Ec. Circular

NMBP

- Materials life cycle sustainability analysis
- Tapping into the potential of Industrial Symbiosis
- Efficient recycling processes for plastic containing materials
- New biotechnologies to remediate harmful contaminants
- Upcycling Bio Plastics of food and drinks packaging
-etc

SC2, Bioeconomy

- Emerging challenges for soil management (impact of micro plastic on soil properties and its ecosystem services function)
- Technologies for observations (sensors to measure variables for aquaculture, fisheries, micro and nanoplastics, and marine litter and micro-litter)
- Oceans Innovation Pilot for the Blue Economy (demonstration of technologies to clean the seafloor and the surface of nearshore waters from plastics and microplastics)
- Pilot circular bio-based cities: sustainable production of bio-based products from urban biowaste and wastewater
-etc

CDT

H2020 - Programa de Trabajo 2020.-

Posibles “topics” de Ec. Circular

SC1, Health

- Emerging challenges for soil management (impact of micro plastic on soil properties and its ecosystem services function)

SC5, Environment and Resource Efficiency

- Develop, implement and assess a circular economy oriented product information management system for complex products from cradle to cradle
- Develop and pilot circular systems in plastics, textiles and furniture sectors
- Understanding the transition to a circular economy and its implications on the environment, economy and society
- Plastics in the environment: understanding the sources, transport and distribution of plastics pollution
- Raw materials innovation for the circular economy: sustainable processing, reuse, recycling and recovery schemes
-etc

CDT

Índice

- Contexto
- Horizonte 2020
- FP9 – Horizonte Europa
- Conclusiones

Y después de 2020.....



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21-CMP1

2030 Framework for CLIMATE action

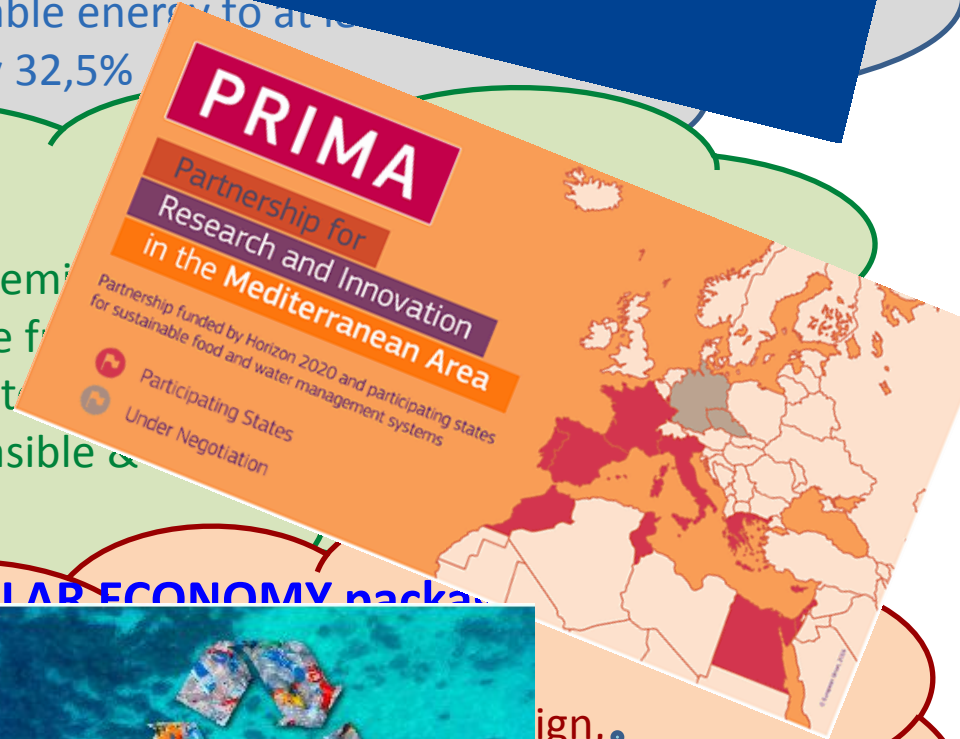
Reducing emissions
Increasing sustainable energy to at least 32,5%
Increasing



2050 Long-term Strategy EU Battery Alliance

By 2050, the EU should cut emissions by 90% compared to 1990 levels. Power generation should be 100% from sustainable & affordable sources.

SUSTAINABLE DEVELOPMENT GOALS



- EU strategy on water resources
- EU strategy on circular economy
- EU strategy on digital economy
- EU strategy on food security, rural development and fisheries
- EU strategy on energy
- EU strategy on transport
- EU strategy on health and digital health
- EU strategy on research and innovation
- EU strategy on culture and creative industries
- EU strategy on youth
- EU strategy on employment and social rights
- EU strategy on justice
- EU strategy on external relations
- EU strategy on international development cooperation
- EU strategy on human rights
- EU strategy on gender equality
- EU strategy on equality between women and men
- EU strategy on anti-discrimination
- EU strategy on anti-racism
- EU strategy on anti-Semitism
- EU strategy on anti-homophobia and anti-transphobia
- EU strategy on anti-fundamentalism
- EU strategy on anti-terrorism
- EU strategy on anti-money laundering
- EU strategy on anti-counterfeiting
- EU strategy on anti-fraud
- EU strategy on anti-corruption
- EU strategy on anti-trust
- EU strategy on anti-competition
- EU strategy on anti-cartels
- EU strategy on anti-abuse of dominance
- EU strategy on anti-mergers
- EU strategy on anti-acquisitions
- EU strategy on anti-takeovers
- EU strategy on anti-foreign direct investment
- EU strategy on anti-foreign investment
- EU strategy on anti-foreign ownership
- EU strategy on anti-foreign control
- EU strategy on anti-foreign influence
- EU strategy on anti-foreign interference
- EU strategy on anti-foreign espionage
- EU strategy on anti-foreign sabotage
- EU strategy on anti-foreign terrorism
- EU strategy on anti-foreign cyberattacks
- EU strategy on anti-foreign cyberespionage
- EU strategy on anti-foreign cyberterrorism
- EU strategy on anti-foreign cyberwarfare
- EU strategy on anti-foreign cybercrime
- EU strategy on anti-foreign cyberfraud
- EU strategy on anti-foreign cyberstalking
- EU strategy on anti-foreign cyberharassment
- EU strategy on anti-foreign cyberbullying
- EU strategy on anti-foreign cybersex
- EU strategy on anti-foreign cyberpornography
- EU strategy on anti-foreign cyberchild abuse
- EU strategy on anti-foreign cyberhuman trafficking
- EU strategy on anti-foreign cybersex trafficking
- EU strategy on anti-foreign cyberchild pornography
- EU strategy on anti-foreign cyberchild exploitation
- EU strategy on anti-foreign cyberchild sexual abuse
- EU strategy on anti-foreign cyberchild sexual exploitation
- EU strategy on anti-foreign cyberchild sexual trafficking
- EU strategy on anti-foreign cyberchild sexual abuse material
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- EU strategy on anti-foreign cyberchild sexual exploitation material production, distribution and possession
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- EU strategy on anti-foreign cyberchild sexual abuse material production, distribution, possession and use
- EU strategy on anti-foreign cyberchild sexual exploitation material production, distribution, possession and use
- EU strategy on anti-foreign cyberchild sexual trafficking material production, distribution, possession and use
- EU strategy on anti-foreign cyberchild sexual abuse material production, distribution, possession, use and disposal
- EU strategy on anti-foreign cyberchild sexual exploitation material production, distribution, possession, use and disposal
- EU strategy on anti-foreign cyberchild sexual trafficking material production, distribution, possession, use and disposal

Industrial Policy Strategy (13/9/2017)

Hacia FP9....calendario **provisional**

2018

Many preparatory works and reports.....

| | |
|------------|---|
| May | 2 May, adoption of the comprehensive proposal for the future Multiannual Financial Framework beyond 2020 |
|------------|---|

| | |
|-------------|--|
| June | 6 June, adoption of the FP9 package (CE proposal) |
|-------------|--|

| | |
|-------|--|
| | Discussions with Parliament and Council / Negotiation / Review |
|-------|--|

MFF 2021-2027, propuesta de la CE

THE NEW MULTIANNUAL FINANCIAL FRAMEWORK 2021 - 2027 A BUDGET FOR A UNION THAT PROTECTS, EMPOWERS AND DEFENDS

In billion euro, current prices

I. SINGLE MARKET, INNOVATION AND DIGITAL €187.4

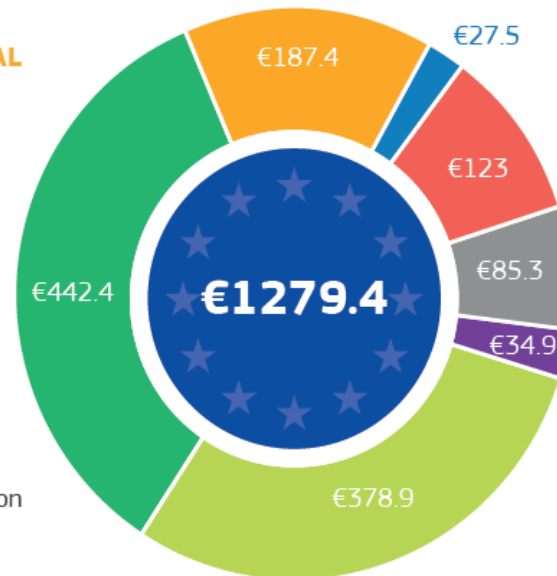
- 1 Research and Innovation
- 2 European Strategic Investments
- 3 Single Market
- 4 Space

II. COHESION AND VALUES €442.4

- 5 Regional Development and Cohesion
- 6 Economic and Monetary Union
- 7 Investing in People, Social Cohesion and Values

III. NATURAL RESOURCES AND ENVIRONMENT €378.9

- 8 Agriculture and Maritime Policy
- 9 Environment and Climate Action



V. SECURITY AND DEFENCE €27.5

- 12 Security
- 13 Defence
- 14 Crisis Response

VI. NEIGHBOURHOOD AND THE WORLD €123

- 15 External Action
- 16 Pre-Accession Assistance

IV. MIGRATION AND BORDER MANAGEMENT €34.9

- 10 Migration
- 11 Border Management

VII. EUROPEAN PUBLIC ADMINISTRATION €85.3

- 17 European Public Administration

**Horizon Europe
€97.9 billion**

LIFE programme

[EU budget for the future](#)

FP9 = Horizon Europe

“



We are proposing the biggest ever investment for a Research, Science and Innovation programme in Europe: €100 billion for the period 2021-2027. This shows the strong commitment of the Juncker Commission towards the future and EU leadership.

#EUBudget

#HorizonEU



Horizon Europe

**The name of the next
EU Research and Innovation
Programme (2021-2027)**

#HorizonEU

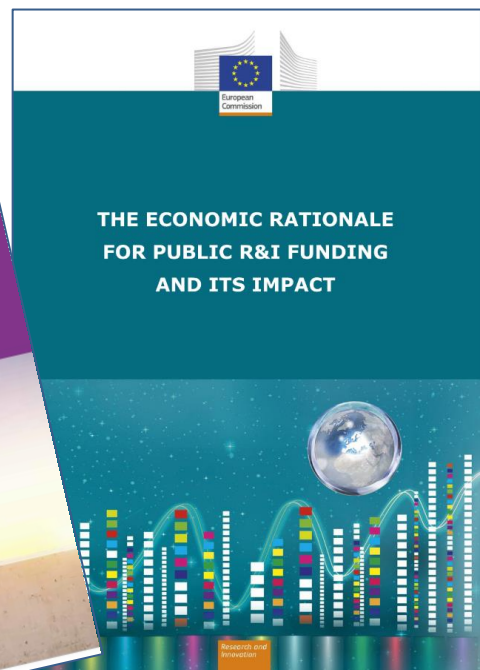
https://twitter.com/EU_H2020/status/1126381286380244994

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@EsHorizonte2020



Propuesta de la CE: Horizon Europe - the next R&I framework programme



Horizonte Europa, propuesta de la CE



Main Features of FP9

-  Strengthen EU science and technology thanks to increased investment in highly skilled people and cutting-edge research;
-  Foster the EU's industrial competitiveness and its innovation performance, notably supporting market-creating innovation via the European Innovation Council and the European Institute of Innovation and Technology;
-  Deliver on the EU's strategic priorities, such as the Paris Agreement on climate change, and tackle global challenges that affect the quality of our daily lives.

Horizonte Europa, propuesta de la CE

From Horizon 2020 to Horizon Europe, evolution no revolution

Horizon 2020 Interim Evaluation



Support breakthrough innovation



Create more impact through mission-orientation and citizens' involvement



Strengthen international cooperation



Reinforce openness



Rationalise the funding landscape



Key Novelties in Horizon Europe

European Innovation Council

R&I Missions

Extended association possibilities

Open science policy

New approach to Partnerships

Towards FP9....calendario **provisional**

| | |
|---|--|
| 2018 | |
| Many preparatory works and reports..... | |
| May | 2 May, adoption of the comprehensive proposal for the future Multiannual Financial Framework beyond 2020 |
| June | 6 June, adoption of the FP9 package (CE proposal) |
| | Discussions with Parliament and Council / Negotiation / Review |
| 2019 | |
| | <ul style="list-style-type: none">• EP and Council negotiations |
| April | <ul style="list-style-type: none">• Partial General Agreement , PGA, (reviewed proposal) |
| May | <ul style="list-style-type: none">• European Parliament elections, appointment of the new Commission |
| | <ul style="list-style-type: none">• FP9.- Strategic programming, missions and partnerships definition• FP9.- Public consultations, R&I Days |
| 2020 | |
| | <ul style="list-style-type: none">• H2020 last calls• FP9.- First WP development |
| 2021 | |
| | <ul style="list-style-type: none">• Launch of the 9th Framework Programme: Horizon Europe |

Horizonte Europa – PGAs (April/2019)

- Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing **Horizon Europe - the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination** – Common understanding on the Framework Programme (<https://data.consilium.europa.eu/doc/document/ST-7942-2019-INIT/en/pdf>)
- Proposal for a DECISION OF THE COUNCIL on establishing the **specific programme implementing Horizon Europe - the Framework Programme for Research and Innovation** - Partial General Approach (<https://data.consilium.europa.eu/doc/document/ST-8550-2019-INIT/en/pdf>)

Horizonte Europa: Estructura (tras PGA)

CE proposal



Pillar 1 Open Science

European Research Council

Marie Skłodowska-Curie Actions

Infrastructures



Pillar 2 Global Challenges and Industrial Competitiveness

Clusters

- Health
- Inclusive and Secure Society
- Digital and Industry
- Climate, Energy and Mobility
- Food and natural resources

Joint Research Centre



Pillar 3 Open Innovation

European Innovation Council

European innovation ecosystems

European Institute
of Innovation and Technology

Strengthening the European Research Area

Sharing excellence

Reforming and Enhancing the European R&I system

Horizonte Europa: Estructura (tras PGA)

Pillar I: Open Science

European Research Council

Marie Sklodowska-Curie Actions

Research Infrastructure

Pillar II: Global Challenges and European Industrial Competitiveness

Clusters:

- Health
- Culture, Creativity and Inclusive Society
- Civil Security for Society
- Digital, Industry and Space
- Climate, Energy and Mobility
- Food, Bioeconomy, Natural Resources, Agriculture and Environment

Joint Research Centre

Pillar III: Innovative Europe

European Innovation Council

European Innovation Ecosystems

European Institute of Innovation
and Technology

Widening Participation and Strengthening the European Research Area

Widening participation and sharing excellence

Reforming and Enhancing R&I system

Global Challenges and European Industrial Competitiveness

Areas of Intervention (PGA April/2019)

| | a) Health | b) Culture, creative, and Inclusive Society | d) Digital, Industry and Space | e) Climate, Energy and Mobility | f) Food, Bioeconomy, Natural Resources, Agriculture and Environment |
|--|---|--|--|---|---|
| Health throughout the Life Course | Democracy and Governance | Manufacturing Technologies | Climate Science and Solutions | Environmental Observation | |
| Environmental and Social Health Determinants | Culture, Cultural Heritage and Creativity | Key Digital Technologies, including quantum technologies | Energy Supply | Biodiversity and Natural Resources | |
| Non-communicable and Rare Diseases | Social and Economic Transformations | Emerging Enable Technologies | Energy Systems and Grids | Agriculture, Forestry and Rural Areas | |
| Infectious Diseases, including poverty-related and neglected diseases | | Advanced Materials | Buildings and Industrial Facilities in Energy Transition | Sea and Oceans and Inland Waters | |
| Tools, Technologies and Digital Solutions for Health and Care, including personalised medicine | c) Civil Security for Society | Artificial Intelligence and Robotics | Communities and Cities | Food Systems | |
| Health Care Systems | Disaster-resilience Societies | Next Generation Internet | Energy Storage | Bio-based Innovation Systems in the EU bioeconomy | |
| | Protection and Security | Advanced Computing and Big Data | Industrial Competitiveness in Transport | Circular Systems (including Water) | |
| | Cybersecurity | Circular Industries | Clean, safe and accesible Transport and Mobility | | |
| | | Low-carbon and Clean Industries | Smart Mobility | | |
| | | Space, including Earth Observation | | | |

Horizonte Europa: Estructura (tras PGA)

Pillar I: Open Science

European Research Council

Marie Sklodowska-Curie Actions

Research Infrastructure

Pillar II: Global Challenges and European Industrial Competitiveness

Clusters:

- Health
- Culture, Creativity and Inclusive Society
- Civil Security for Society
- Digital, Industry and Space
- Climate, Energy and Mobility
- Food, Agriculture and Natural Resources, Agriculture and Environment

MISSIONS

PARTNERSHIPS

Joint Research Centre

Pillar III: Innovative Europe

European Innovation Council

European Innovation Ecosystems

European Institute of Innovation
and Technology

Widening Participation and Strengthening the European Research Area

Widening participation and sharing excellence

Reforming and Enhancing R&I system

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Misiones en FP9



MISSIONS

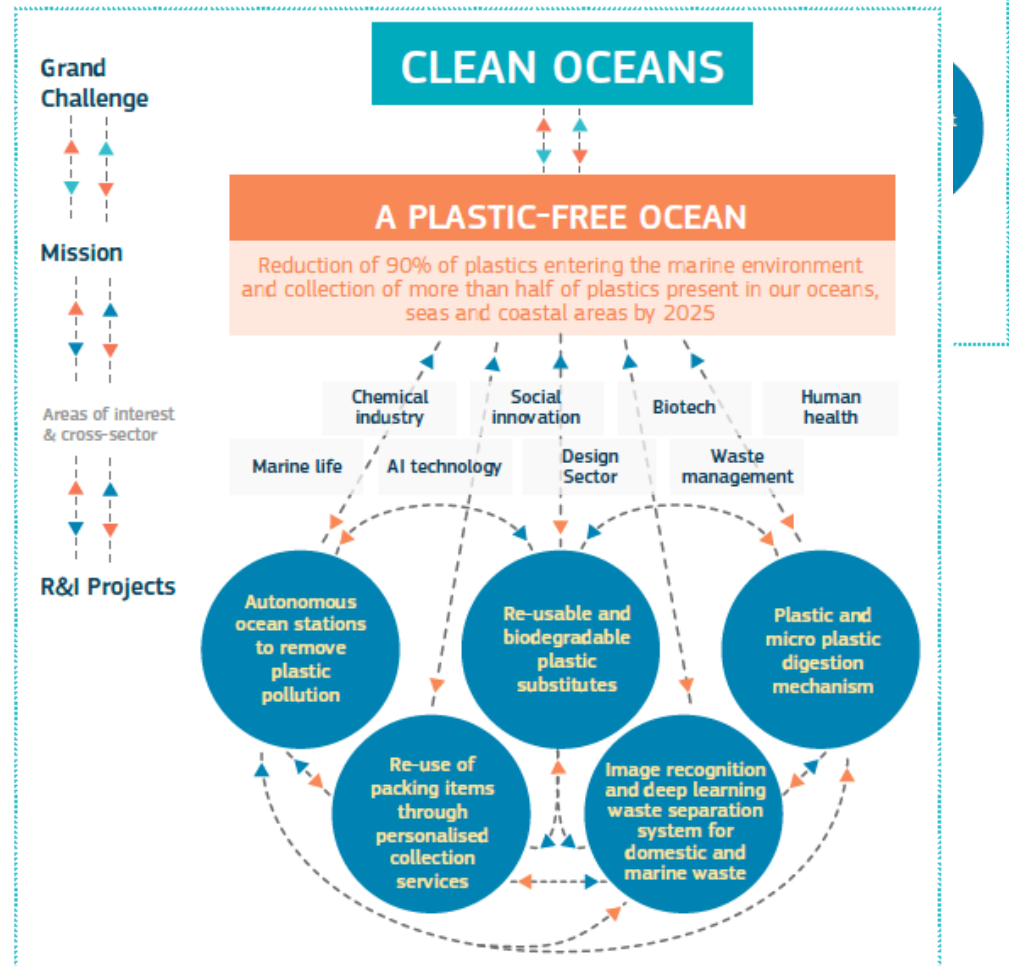
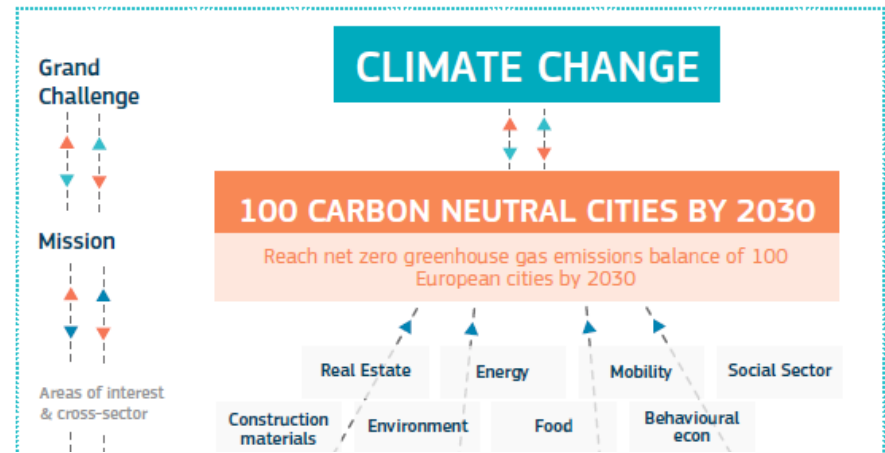
Mission-Oriented
Research & Innovation
in the European Union

A problem-solving approach to fuel innovation-led growth
by Mariana MAZZUCATO



Research and Innovation

esar



Misiones en FP9



R&I Missions

R&I Missions

Relating EU's research and innovation better to society and citizens' needs; with strong visibility and impact

A mission is a portfolio of actions intended to achieve **a bold and inspirational as well as measurable goal** within a set timeframe, with impact for science and technology, society and citizens that goes beyond individual actions

Horizon Europe proposal defines mission characteristics and elements of governance

Specific missions will be **co-designed with Member States, stakeholders and citizens** and programmed within the Global Challenges and Industrial Competitiveness pillar (drawing on inputs from other pillars)

Misiones en FP9

I. Areas for possible Missions

1: Adaptation to Climate Change, including Societal Transformation Mission

2: Cancer

3: Healthy Oceans, Seas, Coastal and Inland Waters

4: Climate-Neutral and Smart Cities

5: Soil Health and Food

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ES H2020 EsHorizonte2020 @EsHorizonte2020

Following

!! Convocatoria de candidaturas para la selección de miembros de los "Mission Boards" de #HorizonteEuropa #misiones #CambioClimático #cáncer #océanos #agua #CiudadesInteligente #suelo #alimentación. Plazo de presentación hasta el 11 de junio (12:00 h).

[ec.europa.eu/transparency/r ...](https://ec.europa.eu/transparency/r...)

Translate Tweet

OPEN

| PUBLICATION | DEADLINE | |
|-----------------|-----------------|--|
| 13 / 05 2019 | 11 / 06 2019 | Call for applications for the selection of members of the commission expert groups: Mission Board for adaptation to climate change, including societal transformation, Mission Board for cancer, Mission Board for healthy oceans, seas, coastal and inland waters, Mission Board for climate-neutral and smart cities, Mission for soil health and food |

DG: DG Research and Innovation
Policy Area: Research and Innovation

[Call_20190513_final.pdf](#) [SEE GROUPS](#)

- [Annex I - classification form.docx](#)
- [Annex II - MB adaptation to climate change - Selection form.docx](#)
- [Annex II - MB cancer - Selection form.docx](#)
- [Annex II - MB climate-neutral and smart cities - Selection form.docx](#)
- [Annex II - MB Healthy Oceans - Selection form.docx](#)
- [Annex II - MB Soil - Selection form.docx](#)
- [Annex III - Declaration of Interest - DoI form.docx](#)

8:42 AM - 13 May 2019

Partenariados en HE

European partnerships: overview

New generation of objective-driven and more ambitious partnerships in support of agreed EU policy objectives

Key features

- More strategic and impact driven
- Simple architecture and toolbox
- Coherent life-cycle approach
- Rationalisation and reform of existing landscape

Co-programmed

Based on Memoranda of Understanding / contractual arrangements; implemented independently by the partners and by Horizon Europe

Co-funded

Based on a joint programme agreed by partners; commitment of partners for financial and in-kind contributions & financial contribution by Horizon Europe

Institutionalised

Based on long-term dimension and need for high integration; partnerships based on Articles 185 / 187 of TFEU and the EIT-Regulation supported by Horizon Europe

Partenariados en HE

II. Areas for possible institutionalised European Partnerships on the basis of Article 185 TFEU or Article 187 TFEU

- 1: Faster development and safer use of health innovations for European patients, and global health.
- 2: Advancing key digital and enabling technologies and their use, including but not limited to novel technologies such as Artificial Intelligence, photonics and quantum technologies.
- 3: European leadership in Metrology including an integrated Metrology system.
- 4: Accelerate competitiveness, safety and environmental performance of EU air traffic, aviation and rail.
- 5: Sustainable, inclusive and circular bio-based solutions.
- 6: Hydrogen and sustainable energy storage technologies with lower environmental footprint and less energy-intensive production.
- 7: Clean, connected, cooperative, autonomous and automated solutions for future mobility demands of people and goods.
- 8: Innovative and R&D intensive small and medium-sized enterprises.

Science|Business @scibus Follow

In case you missed it - A new list is circulating of 44 possible subjects for partnerships with governments, industry and public sector organisations, to be funded in the 2021 – 2027 **#HorizonEurope** R&D programme. bit.ly/30zEsyE

#HorizonEU #EUpolicy #ResearchPartnership

SCIENCE|BUSINESS
**MORE DETAILS
EMERGE OF
44 POSSIBLE
HORIZON EUROPE
PARTNERSHIPS**

12:15 AM - 22 May 2019

Índice

- Contexto
- Horizonte 2020
- FP9 – Horizonte Europa
- Conclusiones

A modo de conclusión

- Se buscan soluciones (involucración de diferentes perfiles, incluyendo usuarios finales).
- Diferentes areas/”topics” para diferentes aproximaciones.
- Alineamiento con políticas e iniciativas (globales, europeas, estatales y regionales).
- Foco en aspectos tecnológicos pero también..... no-tecnológicos.

Don't miss the opportunities !!!!!

Índice

- Contexto
- Horizonte 2020
- FP9 – Horizonte Europa
- Conclusiones

- Información

H2020: Información y Apoyo

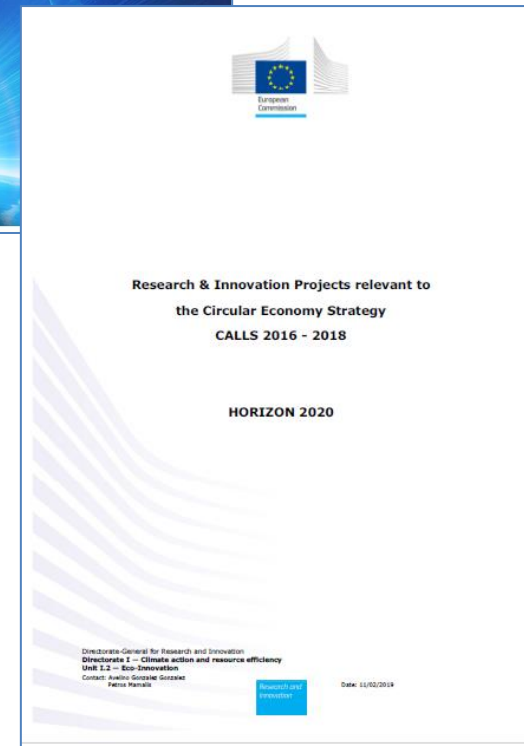


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Información adicional



CORDIS, Projects and Results Services .-
https://cordis.europa.eu/projects/home_en.html

For the future FP9....

- **Mission Boards:** [Call for Expression of Interest](#)
(Plazo hasta el 11 de junio - 12:00 h).
- **Strategic Plan:** Consultation with stakeholders and public at large (~June/2019)
- **European R&I Days:**



**EUROPEAN
RESEARCH &
INNOVATION
DAYS**

24, 25 and 26 September 2019
KANAL  CENTRE POMPIDOU
Brussels, BELGIUM

[Subscribe for updates >](#)

The banner features a decorative border of colorful icons representing various scientific and technological fields such as biology, chemistry, physics, and engineering.

CDTI Centro para



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In **no circumstance** the content of these slides can substitute the information provided in the official call documents and guidelines.

Muchas gracias

Lydia González

Dir. Programas de la UE y Cooperación Territorial

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